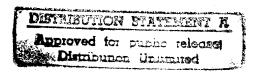
### United States Air Force 611th Air Support Group/ Civil Engineering Squadron

Elmendorf AFB, Alaska

#### **Final**

Decision Document for No Further Response Action Planned

Point Barrow Radar Installation, Alaska



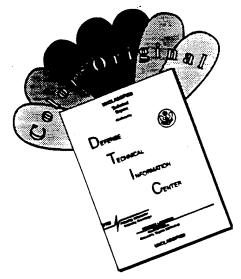
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Prepared by:

**ICF Technology Incorporated** 

29 MAY 1996

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#### PREFACE

This report presents information supporting decisions for no further action at four sites located at the Point Barrow radar installation in northern Alaska. The sites were characterized based on sampling and analyses conducted during Remedial Investigation activities performed during August and September 1993. This report meets the requirements of the United States Air Force (Air Force) Installation Restoration Program (IRP) and is designed to comply with all federal, state, and local laws governing the conduct of environmental investigations in Alaska. This report was prepared by ICF Technology Incorporated.

This report was prepared between January and May 1996. Mr. Samer Karmi of the Air Force Center for Environmental Excellence Environmental Restoration Division (AFCEE/ESR) was the Alaska Restoration Team Chief for this task. Dr. Jerome Madden and Mr. Richard Borsetti of the 611th CES/CEVR were the Remedial Project Managers for this project.

#### **NOTICE**

This report has been prepared for the Air Force by ICF Technology Incorporated to support no further action decisions for specified sites under the Air Force Installation Restoration Program (IRP). The limited objectives of this report and the ongoing nature of the IRP, along with the evolving knowledge of site conditions and chemical effects on the environment and health, must be considered when evaluating this report, since subsequent facts may become known which may make this report premature or inaccurate. Acceptance does not mean that the Air Force adopts the conclusions, recommendations or other views expressed herein, which are those of the contractor only and do not necessarily reflect the official position of the Air Force.

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#### LIST OF ACRONYMS AND ABBREVIATIONS

ADEC Alaska Department of Environmental Conservation

AFCEE/ESR Air Force Center for Environmental Excellence Environmental

**Restoration Division** 

ARAR Applicable or Relevant and Appropriate Requirement

Air Force United States Air Force

BTEX Benzene, Toluene, Ethylbenzene, and Xylenes

CERCLA Comprehensive Environmental Response, Compensation, and Liability

Act

DEW Distant Early Warning

DRPH Diesel Range Petroleum Hydrocarbons

DTIC Defense Technical Information Center

GRPH Gasoline Range Petroleum Hydrocarbons

IRP Installation Restoration Program

POL Petroleum, Oil, and Lubricants

RAB Restoration Advisory Board

RI Remedial Investigation

SVOC Semi-Volatile Organic Compound

VOC Volatile Organic Compound

#### 1.0 INTRODUCTION

This Decision Document discusses the selection of no further action as the recommended action for one site located at the Point Barrow radar installation. The United States Air Force (Air Force) completed a Remedial Investigation/Feasibility Study and a Risk Assessment for the three sites located at the Point Barrow installation (U.S. Air Force 1996a,b). Based on the findings of these activities, one site is recommended for no further action. This recommendation for no further action is based on one or more of the following criteria:

- The findings of the Remedial Investigation/Feasibility Study demonstrate that chemical constituents are not present or occur at low concentrations;
- There is no unacceptable risk to potential human or ecological receptors posed by chemical constituents detected at the site; and
- The Air Force was unable to identify a source of suspected contamination during the Remedial Investigation/Feasibility Study process.

The following site at the Point Barrow radar installation are recommended for no further action:

Diesel Fuel Spill (SS01).

The recommendation of no further action is considered to be protective of human health and the environment, to be cost effective, and to meet applicable or relevant and appropriate requirements (ARARs). Sites at the Point Barrow installation requiring remedial action or further investigation are addressed in the Point Barrow Remedial Investigation/Feasibility Study (U.S. Air Force 1996a).

The Distant Early Warning (DEW) Line community relations program, which includes the community of Point Barrow, was developed to educate the residents on the nature of the Installation Restoration Program (IRP) activities and findings and to ensure the community has input to the decision-making process. The activities include researching, developing, and maintaining a mailing list; producing and distributing fact sheets; and establishing and maintaining administrative records/information repositories at the Elmendorf Air Force Base in Anchorage and the Tuzvy Library in Barrow, Alaska. The Air Force will continue to seek input from the community by organizing a Restoration Advisory Board (RAB) informational meeting and being available for informal visits and small group meetings. The Air Force will broadcast radio announcements, hang posters in public areas, and publish notices announcing the RAB informational meeting to inform the public.

In October 1994, a fact sheet was distributed to everyone on the mailing list summarizing public involvement opportunities during the overall remedial action decision making process. The fact sheet provided a brief history of the DEW Line installations, an overview of the IRP, an update on the environmental investigations at each installation, and a description of the Community Relations Plan, including Air Force plans to keep the community informed about environmental

activities at the various installations. The fact sheet also provided a general schedule of the process leading up to the public comment period. The Final Remedial Investigation/Feasibility Study, Final Risk Assessment, and Draft Final Decision Document for Point Barrow were placed in the information repository for public review in March 1996. A fact sheet explaining the Remedial Investigation/Feasibility Study and Risk Assessment findings was prepared and distributed to individuals on the mailing list. A public comment period on the Draft Final Decision Document was announced via public notice published in the North Slope Sentinel, and via posters mailed to the city office.

To facilitate public participation, the Final Remedial Investigation/Feasibility Study, Final Risk Assessment, and Draft Final Decision Documents for the Point Barrow radar installation were placed in the Administrative Record/Information Repository at the Elmendorf AFB in Anchorage and at the Tuzvy Library in Barrow, Alaska. The public comment period for the Draft Final Decision Document for the no further action site was held from 22 March to 22 April 1996. Individuals who visited the repositories over the course of the public comment period were asked to sign in so the Air Force could determine if the repository was being used. The repository was not visited during the comment period as per the sign in sheet. Questions or comments in regard to information presented in these documents should be addressed to:

Mr. Roger Lucio Community Relations Coordinator 611 CES/CEVR 6900 - 9th Street, Suite 360 Elmendorf AFB, Alaska 99506-2270 (907) 552-4532 or 1-800-222-4137

### 1.1 OVERVIEW OF THE POINT BARROW RADAR INSTALLATION RESTORATION PROGRAM

The Point Barrow radar installation is located at 71°17'N, 156°45'W on the north coast of Alaska, about five miles northeast of Barrow, Alaska. The 268-acre installation is situated on the Barrow Peninsula, a triangular land mass bordered on the west by the Beaufort Sea and Imikpuk Lake and on the east by North Salt Lagoon. The Point Barrow facility, also known as POW-M, was constructed as a main station, and has been active since 1953. The community of Barrow is located approximately five miles southwest of the installation and has a population of approximately 3,469 (U.S. Bureau of the Census 1991). Some water for the Point Barrow installation is obtained from Imikpuk Lake, which has an intake pier on the north shore. Potable water is also obtained from another lake to the southwest. The general location of the Point Barrow radar installation is shown in Figure 1-1, and an area location map is presented in Figure 1-2.

An Air Force contractor conducted Phase I Installation Assessment/Records Search activities at the Point Barrow installation and six other DEW Line stations in 1980 and 1981 (CH2M Hill 1981). Phase I activities included a detailed review of pertinent installation records from both government and civilian contractors, contacts with various government and private agencies for

documents relevant to the program, and onsite visits during July and August 1981. The onsite visits included interviews with key installation employees, ground tours of installation facilities, and plane overflights to identify past disposal and possible contaminated areas.

An Air Force contractor prepared the Technical Support Document of Record of Decision, Point Barrow (POW-M) DEW Line installation in December 1987 (Woodward-Clyde 1987). One potential hazardous waste site was identified in Phase I. No further action was recommended in the Record of Decision.

Correspondence from Alaska Department of Environmental Conservation (ADEC) personnel to Air Force personnel in November 1991 disagreed with the no further action conclusion and stated that further investigation was needed and that corrective action appeared necessary because of improper waste disposal practices and other issues.

A contractor prepared the Environmental Assessment for North Warning System (Alaska), in January 1987 (Hart Crowser 1987). The report, although not an IRP activity, discussed the impacts of retrofitting with Long Range Radar equipment at the Point Barrow DEW Line installation.

In 1991, a non-Air Force investigation studied the Air Terminal Area (Shannon and Wilson 1991). This investigation was conducted by the Navy, which previously conducted operations at the Air Terminal Area.

The Air Force conducted Remedial Investigation/Feasibility Study field activities at the Point Barrow radar installation during 1993. The objectives of these activities were to confirm the presence or absence of chemical contamination at specific areas of the installation; define the extent and magnitude of confirmed chemical releases; gather adequate data to determine the magnitude of potential risks to human health and the environment; and gather adequate data to identify and select the appropriate remedial actions for sites where apparent risks exceed acceptable limits.

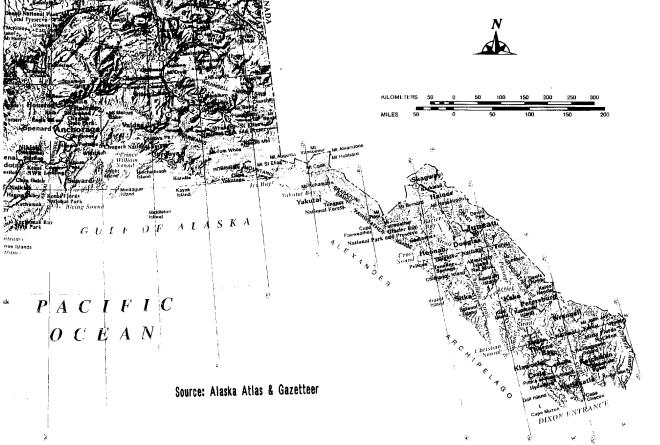
The Final Point Barrow Remedial Investigation/Feasibility Study was completed in February 1996 (U.S. Air Force 1996a).

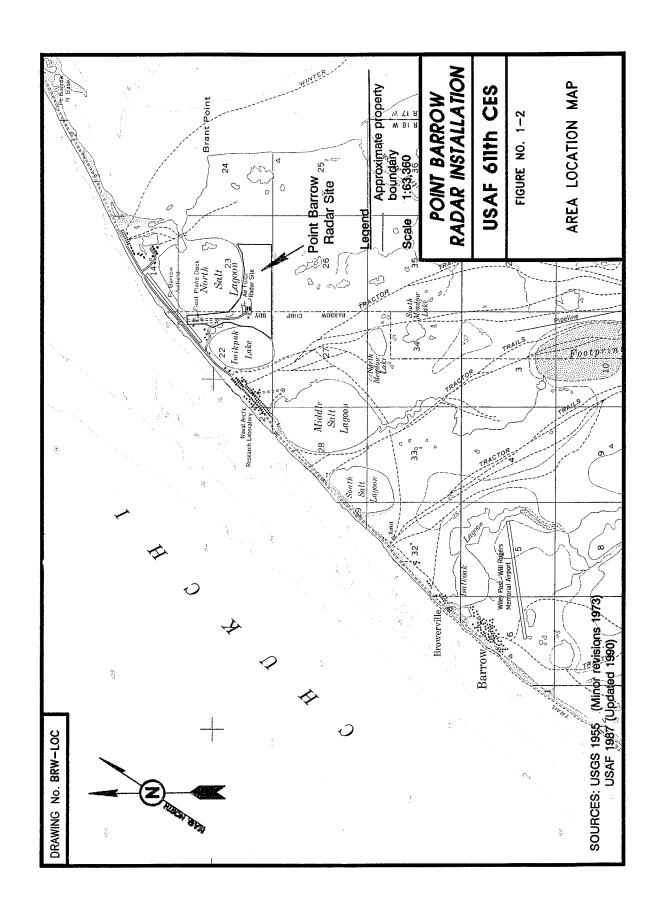
Once the data had been validated and compiled, the Air Force conducted human health and ecological risk assessments to evaluate the human health and ecological risks that may be associated with chemicals released to the environment. The risk assessments characterized the probability that measured concentrations of hazardous chemical substances will cause adverse effects in humans or the environment in the absence of remediation. The risk assessment is used in conjunction with state and federal standards and/or guidance to determine if site remediation is warranted. The Final Point Barrow Risk Assessment was completed in February 1996 (U.S. Air Force 1996b).











Based on the Final Point Barrow Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and Final Point Barrow Risk Assessment (U.S. Air Force 1996b), remedial actions are recommended at one of the three sites, and further characterization is recommended at one site. No further action is recommended at the remaining site.

#### 1.2 DECISION DOCUMENT ORGANIZATION

Section 1.0 of this decision document presents general information regarding the Point Barrow radar installation, past environmental investigations, and community involvement activities conducted by the Air Force. Section 2.0 presents the Decision Document for the one no further action site. This section is intended to be a stand-alone document summarizing information from the Final Point Barrow Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and the Final Point Barrow Risk Assessment Report (U.S. Air Force 1996b). Table 1-1 presents the one site and the section of this document applicable to the site. The location of the one site recommended for no further action is presented in Figure 1-3.

TABLE 1-1. POINT BARROW NO FURTHER ACTION SITE

SITE NAME	SITE NUMBER	SECTION NUMBER
Diesel Fuel Spill	SS01	2.0

The organization of Section 2.0 was developed based on guidance received from ADEC. This section includes a Declaration of Decision that contains a Statement of Basis, a Description of the Selected Remedy, a Declaration, and signature pages for ADEC and Air Force representatives. The Declaration of Decision is followed by information to support the Decision Document including site identification and history, investigation findings, results of the risk assessment, the selected remedial action, and references used to support the Decision Document.

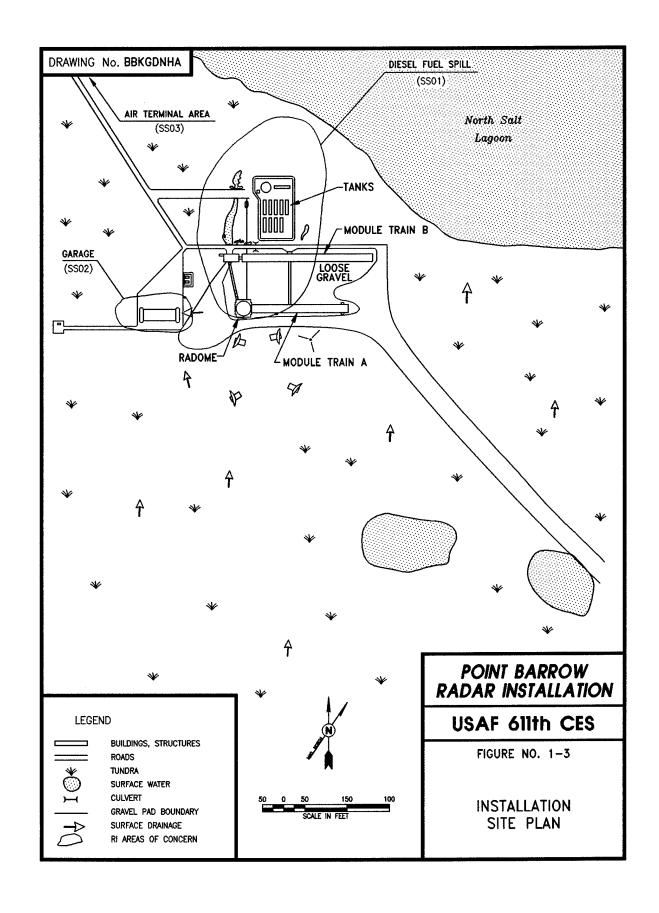
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- Shannon and Wilson. 1991. Final Report Supplemental Remedial Investigation for the Comprehensive Long-Term Environmental Action (Navy Clean Program) Northwest Area. April.
- U.S. Air Force. 1987. Real Estate Map Point Barrow LRR Site, Alaska (Updated 1990).
- U.S. Air Force. 1996a. Final Remedial Investigation and Feasibility Study, Point Barrow Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.
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- Woodward-Clyde. 1987. Technical Support Document for Record of Decision, POW-M DEW Line Site. Final Report.



#### DECISION DOCUMENT FOR NO FURTHER RESPONSE ACTION PLANNED POINT BARROW RADAR INSTALLATION

#### **SECTION 2.0**

SITE NUMBER	SITE NAME
SS01	Diesel Fuel Spill

### 2.0 DECLARATION OF DECISION Diesel Fuel Spill (SS01) Page 1 of 6

#### SITE NAME AND LOCATION

Site Number: SS01

Site Name: Diesel Fuel Spill

Location: Point Barrow Radar Installation, Alaska

#### STATEMENT OF BASIS

This decision is based on the results of Installation Restoration Program (IRP) investigations including records searches, field investigations, and data analyses, and the human health and ecological risk assessments prepared with information gained from the 1993 Remedial Investigation (RI). Based on the results of soil and surface water sampling for inorganics and organics and the completion of a human health and ecological risk assessment, potential adverse effects to human and ecological receptors resulting from conditions at the Diesel Fuel Spill, site SS01, are not expected. The information on which the decision is based is available to the public in administrative records/information repositories. The information available includes the Final Point Barrow Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and the Final Point Barrow Risk Assessment (U.S. Air Force 1996b).

#### DESCRIPTION OF THE SELECTED REMEDY

Based on the current conditions at the Diesel Fuel Spill (SS01), it has been determined that no significant risk or threat to public health or the environment exists. Therefore, no further action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, is required.

#### **DECLARATION**

This Decision Document presents the selected remedy for the site developed in accordance with CERCLA (as amended by the Superfund Amendments and Reauthorization Act of 1986), the National Contingency Plan, the regulations of the State of Alaska Department of Environmental Conservation (ADEC), and the United States Air Force (Air Force) IRP. It has been determined that no further action is protective of human health and the environment, attains federal and state requirements that are applicable or relevant and appropriate, and is cost effective. The statutory preference for further treatment is not satisfied because further treatment was not found to be necessary. Contaminant levels at the site have been determined to present no significant threat to human health or the environment; therefore, no treatment is necessary.

### 2.0 DECLARATION OF DECISION Diesel Fuel Spill (SS01) Page 2 of 6

This decision does not preclude future remedial or site investigations if information indicates that there is previously undiscovered contamination or exposures that may cause risk to human health or the environment. The ADEC reserves all of its rights to request additional activities in the future, if necessary.

2-2

### 2.0 DECLARATION OF DECISION Diesel Fuel Spill (SS01) Page 3 of 6

UNITED STATES AIR FORCE

<b>.</b>		5 .	
Signature:		Date:	
Name:	Samuel C. Johnson, III, Colonel, USAF		

Commander, 611th Air Support Group

## 2.0 DECLARATION OF DECISION Diesel Fuel Spill (SS01) Page 4 of 6

### 2.0 DECLARATION OF DECISION Diesel Fuel Spill (SS01) Page 5 of 6

REVIEW AN	D CONCURRENCE:	STATE OF ALASKA, DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Signature:		Date:
	Kurt Fredriksson Director, Division of	Spill Prevention and Response

# 2.0 DECLARATION OF DECISION Diesel Fuel Spill (SS01) Page 6 of 6

#### 2.1 DECISION DOCUMENT SUPPORT

The following sections summarize the site history, sample analyses, human health and ecological risk assessments, public involvement, and selected action and decision for the Diesel Fuel Spill, site SS01.

#### 2.1.1 Site History

Diesel Fuel Spill (SS01) is an approximately three acre area located north of module train A. A 300-gallon spill occurred at the site in 1974; however, the exact location of the spill is unknown (CH2M Hill 1981). The site consists of two sections: a tundra area to the north adjacent to the petroleum, oil, and lubricant (POL) storage area and a gravel pad area to the south, adjacent to the west end of module train B. The POL storage area in the north portion of the site is a bermed area that was used as a storage area for arctic grade diesel fuels from 1956 to 1978. In the south portion of the site, a gravel road raised approximately three feet above the tundra surrounds both module trains. There is a thin layer of gravel below both module trains, and the gravel between the module trains is raised approximately one foot above the tundra. Culverts lead from below the module train north to the tundra area.

#### 2.1.2 Sample Analyses Summary

The Air Force had not conducted sampling and analysis at the Diesel Fuel Spill (SS01) prior to the 1993 RI. During the 1993 RI, the Air Force collected 12 soil, 8 sediment, and 7 surface water samples from the gravel pads, roads, and tundra areas at the site. Organic compounds detected in soil/sediment samples collected at the site include diesel range petroleum hydrocarbons (DRPH), gasoline range petroleum hydrocarbons (GRPH), benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds, two other volatile organic compounds (VOCs), and two semi-volatile organic compounds (SVOCs). The two SVOCs detected were also detected in the associated laboratory blank and are the common laboratory contaminants. In surface water samples, organic compounds detected at the site include GRPH, BTEX, and seven other VOCs.

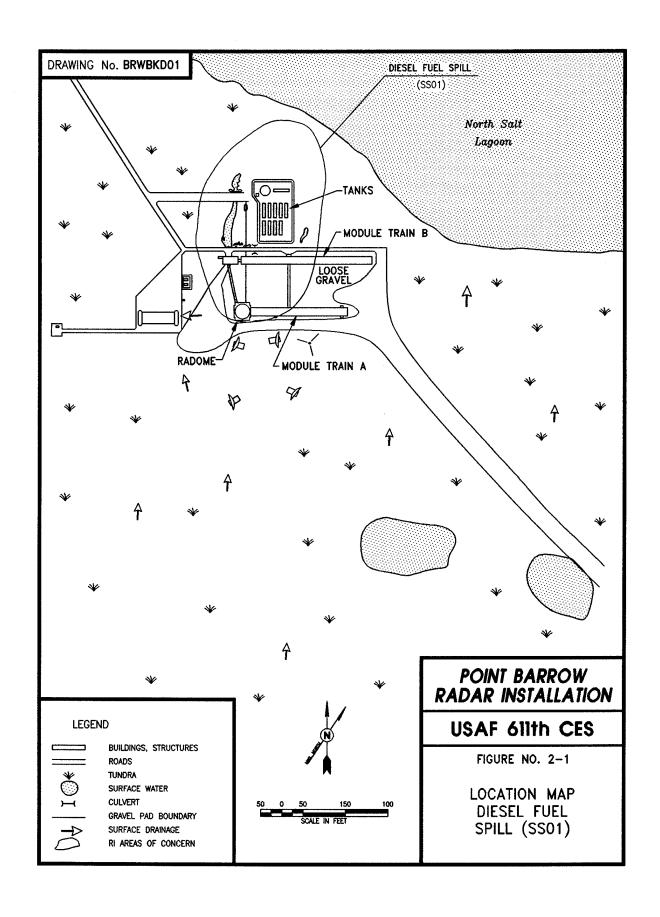
Metals were not a concern at the site; therefore, no metals analysis was performed. Table 2-1 summarizes the organic chemicals detected above background levels. Sample locations and results are shown in Figure 2-2.

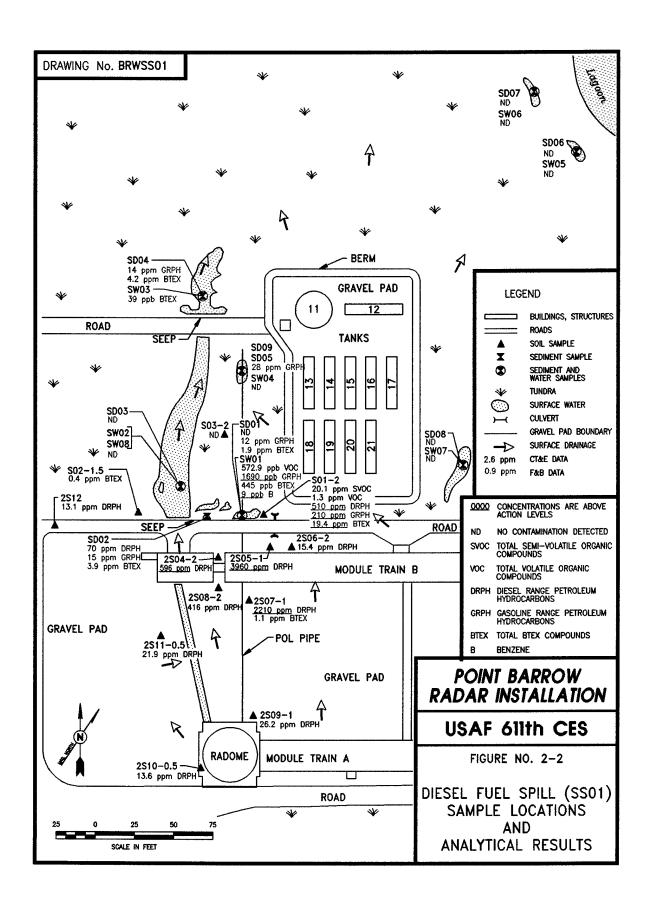
The primary contaminants at the Diesel Fuel Spill (SS01) site are relatively low levels of petroleum hydrocarbons (DRPH and GRPH), BTEX, and other VOCs commonly associated with gasoline and diesel fuel. The suspected source of contaminants detected during sampling conducted at the Diesel Fuel Spill site is previous diesel spills and/or leaks associated with the inactive diesel day tank at the west end of module train B; however, no "hot spot" or source area of highly contaminated soil or gravel was identified. No previous IRP sampling is known to have been conducted at the site.

TABLE 2-1. SUMMARY OF 1993 REMEDIAL INVESTIGATION SAMPLING AT THE DIESEL **FUEL SPILL (SS01)** 

CHEMICAL	SAMPLE/MEDIA	MAXIMUM CONCENTRATION	NUMBER OF DETECTIONS
DRPH <sup>a</sup>	Soil/Sediment	3,960 mg/kg	11
GRPH <sup>b</sup>	Soil/Sediment	210 mg/kg	5
Benzene	Soil/Sediment	0.17 mg/kg	2
Toluene	Soil/Sediment	1.5 mg/kg	6
Ethylbenzene	Soil/Sediment	3.7 mg/kg	5
Xylenes (Total)	Soil/Sediment	14 mg/kg	5
1,2,4-Trimethylbenzene	Soil/Sediment	0.903 mg/kg	1
1,3,5-Trimethylbenzene	Soil/Sediment	0.396 mg/kg	1
GRPH	Surface Water	1, <b>690</b> μg/L	1
Benzene	Surface Water	9 μg/L	2
Toluene	Surface Water	42 μg/L	2
Ethylbenzene	Surface Water	14 μg/L	2
Xylenes (Total)	Surface Water	3 <b>80</b> μg/L	2
sec-Butylbenzene	Surface Water	1.5 μg/L	1
Isopropylbenzene	Surface Water	4.8 μg/L	1
p-Isopropyltoluene	Surface Water	4.0 μg/L	1
Naphthalene	Surface Water	58 μg/L	1
n-Propylbenzene	Surface Water	4.1 μg/L	1
1,2,4-Trimethylbenzene	Surface Water	92 µg/L	1
1,3,5-Trimethylbenzene	Surface Water	52 µg/L	1

DRPH = Diesel Range Petroleum Hydrocarbons.
GRPH = Gasoline Range Petroleum Hydrocarbons.





Analytical data suggest that offsite migration of contaminants in active layer water has not occurred, although limited on site migration has occurred in both the surface and subsurface. Berms, flat topography, and the lack of drainage features indicates that the potential for surface migration from the site is limited.

#### 2.1.3 Risk Assessment Summary

The Final Point Barrow Risk Assessment (U.S. Air Force 1996b) concluded that risks posed to human and ecological receptors by site contaminants are minimal given current or future site uses. The potential noncancer hazards and cancer risks identified in the human health risk assessment were below the level at which remediation is usually required (EPA 1991). No significant ecological risks were identified based on an evaluation of chemicals detected in soil/sediment and surface water.

Based on the 1993 RI sampling and analyses, risk assessment, and current or future site uses, remedial actions are not warranted at the site. No significant human health or ecological risks were identified at the site, and the petroleum compounds detected at the site do not appear to be migrating offsite. Therefore, the Diesel Fuel Spill (SS01) is recommended for no further action.

#### 2.2 PUBLIC INVOLVEMENT AND COMMENT

Community relations activities that have taken place for the Point Barrow radar installation include the following: residents of Point Barrow were interviewed by Air Force community relations personnel on 26 June, 1993; a mailing list of residents of Point Barrow is being maintained by the 611th CES/CEVR; a fact sheet describing the status of the Installation Restoration Program at the radar installation was distributed to the mailing list on October 1994; a fact sheet was distributed to the mailing list during August 1995 explaining the Restoration Advisory Board (RAB) and how community residents could become RAB members; two RAB meetings were held in Barrow, Alaska in 1995; public notices were published in March 1996 regarding the decision for no further action at the Diesel Fuel Spill (SS01); fact sheets were sent to all residents on the mailing list during March 1996 describing the site recommended for no further action at the Point Barrow radar installation; a public review and comment period on the Draft Final Decision Document for the no further action site was held from 22 March 1996 to 22 April 1996; and documents have been, and will continue to be, available for review at information repositories that have been established in Tuzvy Library in Barrow, Alaska, and Elmendorf Air Force Base in Anchorage, Alaska since March 1996. The Air Force has received no public comments in response to the fact sheets, public notices distributed to date, or during the formal public comment period.

To facilitate public participation the Air Force plans to conduct a RAB informational meeting during 1996.

#### 2.3 SELECTED ACTION AND DECISION

The selected action and decision for the Diesel Fuel Spill (SS01) is no further action. This action is consistent with the requirements of ADEC, the Air Force, and federal regulations regarding the remediation of hazardous waste sites. This decision is based on the conclusions provided above and the supporting documentation contained in the Final Point Barrow Remedial Investigation/ Feasibility Study (U.S. Air Force 1996a) and the Final Point Barrow Risk Assessment (U.S. Air Force 1996b).

#### 2.4 REFERENCES

- U.S. Air Force. 1996a. Final Remedial Investigation and Feasibility Study, Point Barrow Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.
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